THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

May-June 1997

Going through a T-34C's canopy

Encounter with a volcano

How many civilians can one helo blow over?

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Volume 42, Number 3 May-June 1997

On the cover: A Diamondback Tomcat. *Photo by Lt. Jerry Leekey.*

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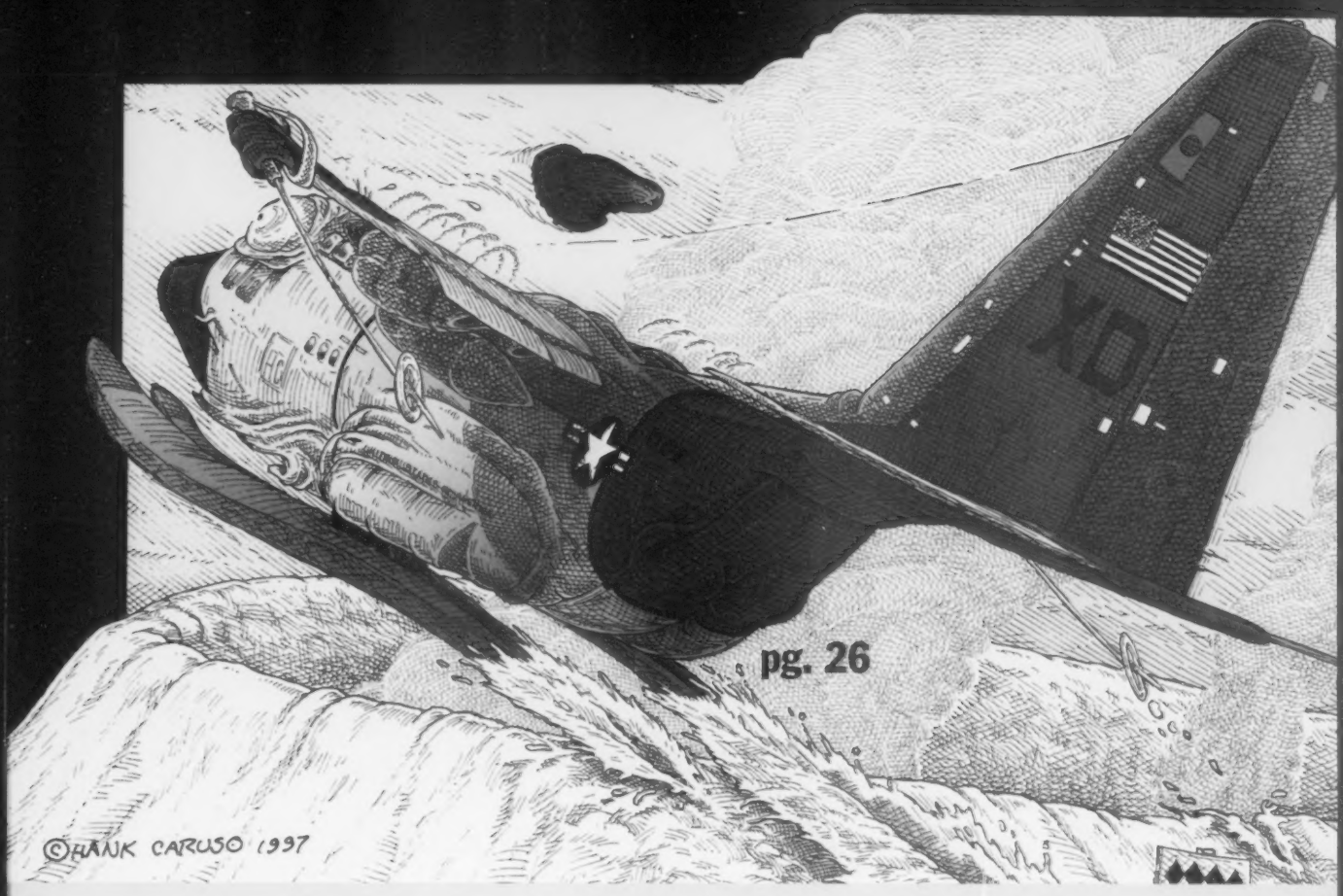

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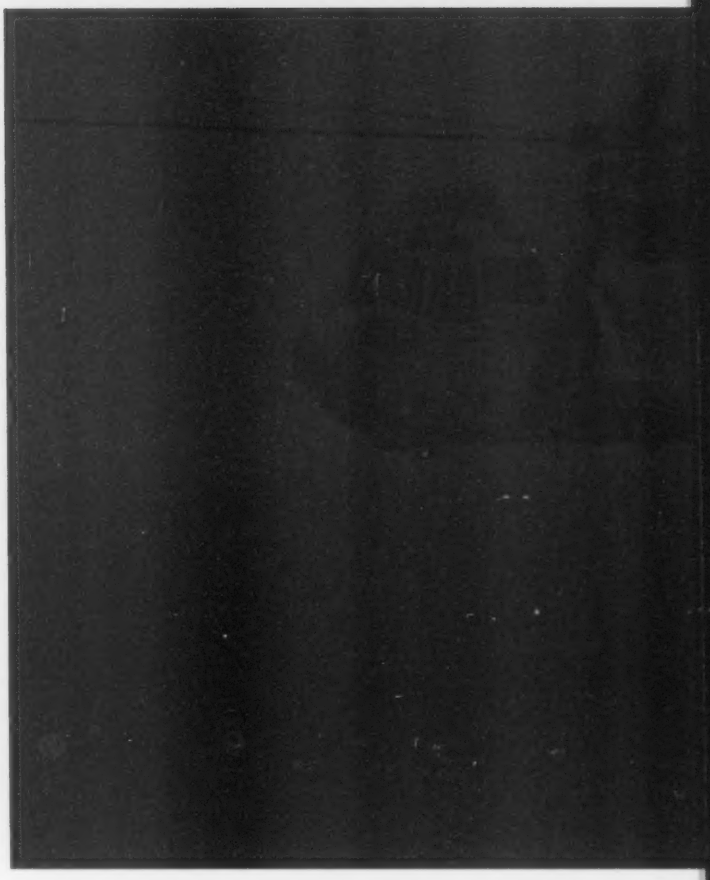
All in a Night's Work

by Lt. G.S. Whitehead



We first ran this story in the March 1988 issue. Recent helicopter mishaps show that we need to revisit some of the lessons these H-3 pilots learned.

Night carrier ops – no moonlight, a glassy sea, intermittent doppler and the plane-guard pattern. The stage was set. These are not an SH-3H pilot's favorite conditions to dip. You would think a pilot would give these conditions their proper respect, but not these two helo pilots on this night. They gave into perceived pressure to maintain their currency of six night doppler approaches-to-a-hover per month.

They waved off their first two approaches because the doppler was not acquiring, but that didn't stop the young warriors from completing their mission.

"Standby alternate," the HAC announced.

These two pilots were going to beat the odds. After all, the third time's the charm, right?

"Coupler," the HAC called as he removed his feet from the pedals.

"Coupler engaged, three lights, alternate," the copilot replied as he began his instrument scan. The coupler system lowered the collective, and the descent from 150 feet began for the start of what would be the longest three minutes of these young aviators' careers.

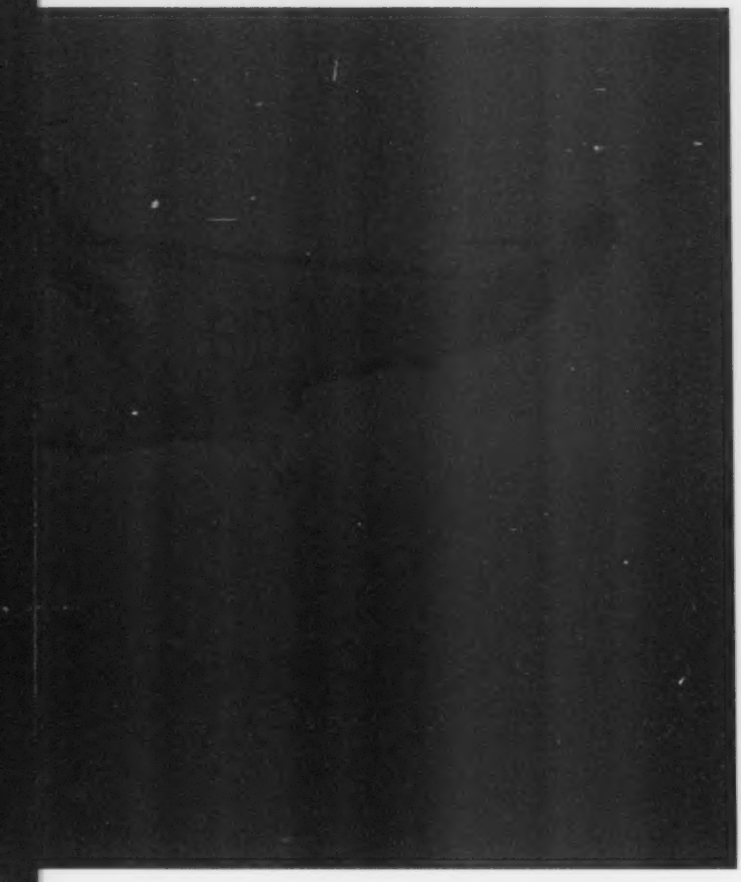
The helo followed what seemed to be the normal approach parameters, hitting gates at 80 feet and 30 knots. The cockpit lit up. The doppler had gone into memory because of the glassy sea state.

"You have a memory light, probably from the low sea state," the copilot said.

"Roger, we'll just go ahead and continue down until the doppler acquires in the rotor wash. Just back me up."

They reached 40 feet with no problems, and all the pilot had to do was "beep" the nose up to slow the aircraft down so the rotor wash could catch up with the helo. The HAC beeped the nose up until it was uncomfortable for both pilots, but still no acquisition of the doppler. There were no cockpit indications of groundspeed or drift (because of the lack of doppler) and no visual reference (no horizon). But did the pilots wave off and call it a night? Not these two; they were determined.

"I'm going to turn on the spotlight to see if the rotor wash is coming in," the HAC said.



Something made him look at the rest of his attitude instruments. Instinct, intuition, maybe just training...

Now, let's stop and examine the situation. We have two pilots in a helicopter at 40 feet. They have no indication of aircraft groundspeed, and they don't know if the aircraft has any drift. They are beeping the nose up, and now they are going to turn on the aircraft's spotlight, which will probably induce vertigo.

The spotlight came on, and the HAC looked out his window. "I can't see the water," he exclaimed, "let alone the rotor wash."

He turned the light off and returned to his scan inside the cockpit when the nose began pitching up and down. The helo yawed to the right. The copilot saw the torque go to max.

"I got it," he said. His scan went immediately to the attitude gyro, and he thought, "I've got to keep the wings level."

Something made him look at the rest of his attitude instruments. Instinct, intuition, maybe just training – who knows –but once this happened, he regained control of the aircraft. What had started at 150 feet, three miles and abeam the carrier, was now climbing through 500 feet, six miles and approximately 45 degrees from the ship.

"Is the ASE on?" the copilot asked.

"Negative," the HAC replied. "It's coming on now! What happened? Where's the carrier? We're at 045 at six. How did we get here?"

"I don't know. Are you OK?"

"I'm OK," the HAC said. He called to the three aircrewmen behind in the cabin," Crew, are you OK?"

This helicopter with a crew of five was flying plane guard duties for a night recovery. It was doing dips three miles from the carrier on what most helo pilots would consider the worst conditions. Nothing new. It happens all the time. But what *did* happen was different. The two pilots didn't consider the environmental warnings and kept trying to get a qual that could have waited for another night.

Maybe you can call it aggressiveness, maybe on the first or second dip. But as these two found out, the third time was *not* the charm. They got so wrapped up in getting that check that they completely forgot they were mortal. The H-3 spiraled straight up to 600 feet, went through at least 540 degrees of turn, and traveled from three to six miles from the ship.

What would have happened if the aircraft had gone three miles in the opposite direction?

Lt. Whitehead was with HS-2.

A Full Canopy

by Lt. Brian Gebo

It was my sixth flight in the T-34, and I thought I was finally getting the hang of landing with the typical Corpus Christi crosswind. My on-wing and I got along pretty well. I was happy that he wasn't a screamer, as I had heard horror stories from my buds. He told me that, at this point in fams, I was improving steadily. I was definitely not the ace of the base, but there was hope for me progressing through the syllabus, after all.

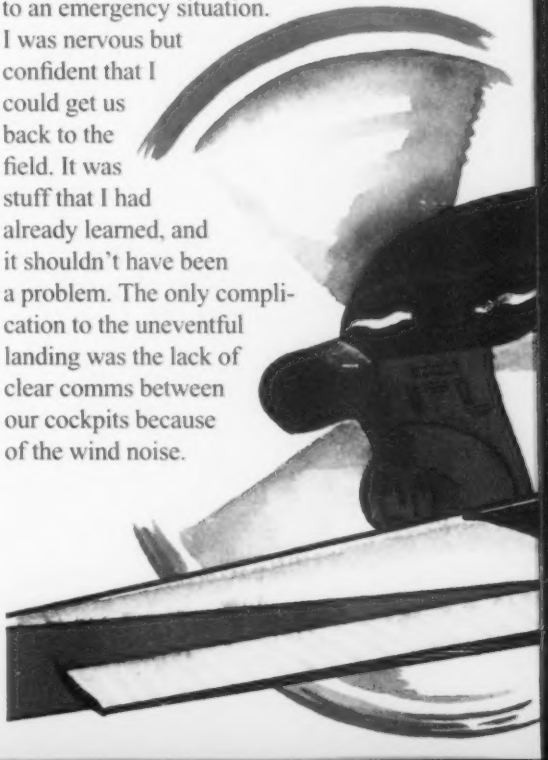
We finished our high-altitude maneuvers in the operating area off the beach of North Padre Island and headed back across the intracoastal waterway to enter Waldron Field from the south. My instructor wanted to show me King Ranch. He explained that it was one of the areas where people practiced HAPLs and LAPLs. He wanted to show me some of the better fields before sending me off-wing.

After looking at my fair share of mesquite trees, we made a HAPL to a large, flat field. After recovering from the maneuver, I heard a loud noise from the aft cockpit. As we were climbing back up to altitude, I asked him if there was a problem. He told me that his seat had ratcheted down to the full-down position. I looked in the mirror and could barely see the top of his helmet. He explained to me that he would take control and bring his seat back up by using forward stick. The negative G would bring his seat back up. He said it was a common way to adjust the seat. I hadn't seen this method before but was ready to learn something new. He told me to get ready because it might be slightly uncomfortable.

Just after the initial nose-down input and the resulting feeling of being light in my seat, I heard a loud pop. At the same time, it sounded and felt like a tornado had been let loose in the cockpit. Looking in the mirror, I saw my on-wing's seat was at the full-up position. After some obvious frustration and a few choice words, he explained what had happened. His seat had, indeed, risen to the full-up position. In fact, it had come far enough to make his helmet hit the canopy with enough force to knock a hole in the plexiglass. That explained the noise and extra ventilation in the cockpit.

We radioed back to the squadron, explaining what had happened and telling them that we would be returning to base. My on-wing gave me control of the aircraft and told me to fly us back. We contacted Corpus Tower for a precautionary emergency landing. They cleared us straight in.

This flight was as close as I had ever been to an emergency situation. I was nervous but confident that I could get us back to the field. It was stuff that I had already learned, and it shouldn't have been a problem. The only complication to the uneventful landing was the lack of clear comms between our cockpits because of the wind noise.



Press

After recovering from the maneuver, I heard a loud noise from the aft cockpit.

We were back on deck before I knew it, safe and sound.

The only injuries suffered by my on-wing were a slight cramp in his neck and a significant dent in his pride. His sense of humor was further tested as we taxied to the line. The maintenance contractors and several squadron members were lined up to witness his handiwork. We discussed what had happened. Even though it was common to raise the seat like that, it wasn't the safest thing to do.

He said that this should be a lesson to me at his expense: shortcuts don't always work.

Lt. Gebo flies with HSL-44.

It's Not the

by LCdr. John Hilterman

PH1 Stephen Batiz

...zap! I became a human lightning rod and felt like I got hit in the chest by a freight train. It not only knocked me back into the ejection seat, it incapacitated me for nearly 10 seconds.

It was one of those nights you talk about during midrats after – shall we say – an interesting Case III recovery. Thank goodness for paddles! After an equally painful bow-taxi fam, I shut down my Lot-12 Hornet and started unstrapping. In my rush to get out of the foul weather and off the flight deck, I failed to notice that my PC hadn't swept my canopy with the "glove."

For those of you who aren't Hornet drivers, let me explain. FA-18s from Lot 12 and above have specially coated canopies that have a nasty little habit of concentrating and storing static electricity that builds up during a flight. You SH-60B guys conducting RAST recoveries know all about the amount of static electricity that can build up on an aircraft. Unfortunately, the static won't discharge itself from the canopy without the help of the glove, a grounded pot-holder on a stick.

Our normal line SOP is to sweep the glove over the entire canopy before the pilot climbs out so that the stored static charge is removed before anyone touches the canopy. I soon found out why we do this.

As I reached up to the windscreen's bow to pull myself out of the cockpit... zap! I became a human lightning rod and felt like I got hit in the chest by a freight train. It not only knocked me back into the ejection seat, it incapacitated me for nearly 10 seconds. I'm here to tell you, boys and girls, this wasn't no wimpy 110-volt hit you get when tinkering with the family toaster-oven; this knocked the wind out of me hard and made me thankful the old "it's not the volts that kill you, it's the amps" adage held true. I won't ever make that mistake again. After a few choice expletives directed at the canopy manufacturer, I pulled myself out of the cockpit.

Volts That Kill You

Many HAZREPs have been submitted documenting similar occurrences in the Hornet community and they all appear to have a common theme: the weather conditions during the flight. There had been a lot of turbulence and windshear. Winds aloft approached 110 knots at 30,000 feet and were almost nonexistent down low. The entire op area had reduced milk-bowl visibility and light precipitation. If you find yourself landing after a flight with similar conditions, make absolutely sure the ground crew discharges that canopy before you come in contact with it.

I learned a few other things that night. There was a false perception in our squadron that sweeping the canopies while at sea wasn't as critical as it is ashore since the aircraft carrier is metal, the tailhook is metal, and the two obviously have to meet at some point if you're going to climb out of your jet. I proved that wrong. The rest of the aircraft will be grounded during the trap, but that canopy will remain isolated and charged awaiting a victim.

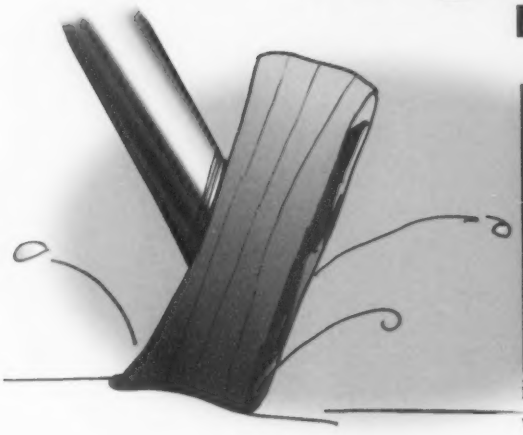
I also relearned the valuable lesson of not letting anything get you off your game plan. I let the bad weather rush my attempt to get off the flight deck and back to the ready room before I complied with our SOP, a small violation that didn't involve any safety-of-flight issues but was an error nonetheless.

LCdr. Hilterman flies with VFA-27.

PHAN Andrea Davis

Impressing the

by Lt. Nick Armstrong, RN



Having served with the fleet replacement squadron for six months, I felt it was time to get noticed by the "grownups." Not that I wasn't already known – a British accent and funny uniform tend to make you conspicuous – but I was hoping to really catch their eye.

The mission I chose for my big impression was my first front-seat instructional flight with a student pilot, and to make sure I emphasized my point, it was at night.

As the lights came on, all I could see were hundreds of shiny eyes belonging to some very startled members of the airfield's lagomorphs...

My student was a conscientious, eager young man who had just completed his back-in-the-saddle day flight. He produced a comprehensive brief and as the dutiful instructor, I pointed out that night-flying itself is an emergency. I remarked that you shouldn't relax until you've handed the aircraft back to the maintenance officer.

The flight went without incident and, despite my slight apprehension at teaching a pilot for the first time, I was feeling pleased that I had helped improve his overall performance. His landings also showed improvement, and so for the final full-stop we briefed to execute a Bay Approach, which required us to land on an alternate runway.

The final landing was his best of the night. The speed brakes deployed, and the aircraft started to slow down. My radio was intermittent, so the student was working the tower frequency while I called the duty office on UHF No. 2. The tower told us that a P-3 was on a long final, landing on the same runway but in the opposite direction. I registered this fact but then put it out of my mind. Two thousand helicopter hours had taught me that while I'm on the runway, I have priority and anyone else has to wait. Sadly, my pilot didn't have the benefit of significant previous flying experience and allocated a significant section of his brain to process this information.

Grownups

Peter Mersky

As we continued the landing rollout, I tried to start the APU when tower called and said something about "left off prior to the 2-board," which the pilot rogered.

I looked up from the APU, which frustratingly wouldn't start, sighted the 2-board, made sure the pilot had seen it, and after a quick scan of the P-3's landing light, it was back to the damned APU. About five seconds later, I felt the aircraft start to turn right. The seat of my pants registered the motion and informed my brain that something was amiss, so I looked up. All I could see was a big fat nothing! As my eyes became accustomed to the dark night, I could make out a thin strip of faint lights glowing in the far distance, not the normal sight picture for a busy airfield with three active runways.

I felt a small bump followed by the aircraft rapidly slowing from 20 knots to zero. Disoriented as I was, my normal voice had sadly departed, and in my best contralto, I called for lights. As the lights came on, all I could see were hundreds of shiny eyes belonging to some very startled members of the airfield's lagomorphs (or rabbits, in colonial English). Some time later, the P-3 landed.

Well, I certainly got noticed! My student pilot, preoccupied with the P-3, had heard (wrongly) the tower say, "Right at the 2-board" and did just that. Unfortunately for us, there is no in-use taxiway to the right of the runway near the 2-board. In fact, there is no pavement to the right of the runway near the 2-board, just a lot of rabbit warrens and owl boroughs. There was little consolation watching the maintenance officer fall into one of these warrens before coming over to debrief us. The ride back to the squadron was a quiet one.

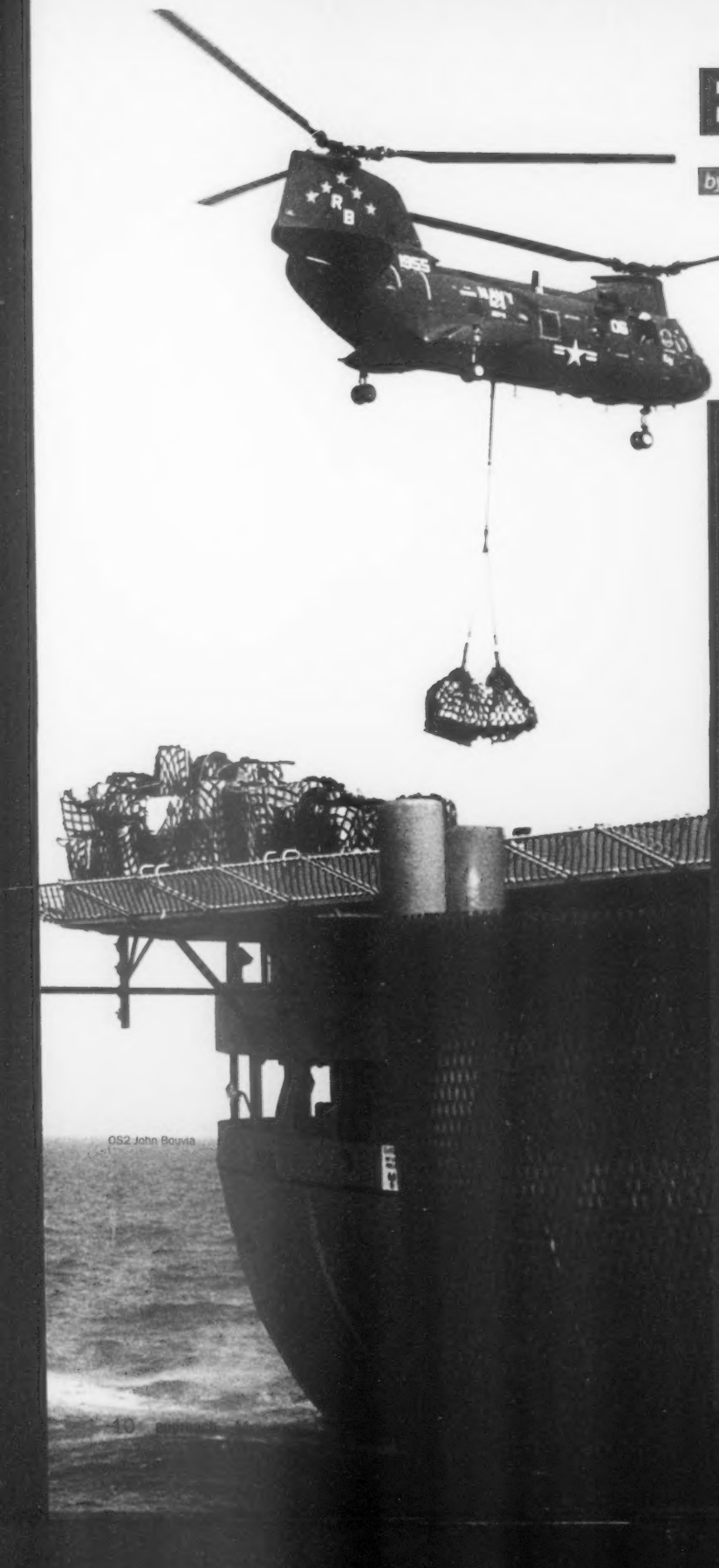
The following morning (after a short monologue from the CO about what he thought on the subject of aircrew who failed to bring his aircraft all the way back to the line) was a time for quiet reflection. I had done exactly what I had told the student not to do, relax before the flight was well and truly over. I assumed he was comfortable with the presence of the P-3 and having landed with his landing light, he was familiar with the airfield layout. While I was busy with something that easily could have waited – the APU malfunction and duty comms – I let the student become overloaded and taxi off the runway, fortunately damaging nothing but our egos and the MO's ankle.

Lessons learned? Never assume, always check and verify, especially if the bottom line is your bottom! Also, what may be relatively straightforward to you may be overwhelming to someone else. There are better ways to get noticed by the grownups.

Lt. Armstrong is a Sea King observer and was on exchange duty with VS-41 at the time of this story. He has since finished his exchange tour and returned to the Royal Navy.

Eight Thousand

by Lt. Jake Ryan



OS2 John Bouvia

Our detachment was embarked in an AOR for a Westpac-Indian Ocean-Arabian-Gulf deployment. We were finishing the long Pacific transit and looking forward to some time in Hong Kong. My HAC briefed, we preflighted, and launched into the rapidly diminishing pinkie time. We were to move about 100 pallets from a USNS ship to mother. The USNS ship was making her approach and was still a few miles aft. As the remaining light faded, we realized we were in a challenging situation. It was turning into a black night.

Finally, the VERTREP began, and we started to move the 100 pallets for further transfer to the battle group. It started real rough with low ceilings, horrendous winds, and two small decks pitching like I'd never seen decks pitch.

With the 40-knot winds, we couldn't use the world-famous H-46 buttonhook. Not only would it take a lot longer, but with every load we had to make an instrument takeoff into a black hole, fly a no-horizon pattern until we saw the ship, and bring the load to our deck. After about 25 scary, vertigo-inducing circuits around the boat, we came in for fuel and had a heart-to-heart with the OinC.

There are three requirements for night vertical replenishment: Visible horizon in all quadrants, the capability to distinguish one deck from the other deck, and ships in conrep position.

Pounds of Soggy Fish Food

...the radalt dropped through 50 feet like a stone, the VSI pegged down, and everybody started screaming, "Dump it, dump it!"

We did not have the first, and the second two were present but we weren't able to use them because of the winds. Picking up 3,000-pound loads with a tailwind just isn't an option, even with a Sea Knight. Something had to give and the weather was getting worse.

The OIC reported that the skipper was willing to turn the boat 40 degrees for better winds, and we agreed to launch and take a crack at it. We started on the VERTREP and again the decks were really heaving. After a few rough picks and drops we headed in for what proved to be the last pick of the night. We spent a lot of time over the load, but finally got a hookup. We had just pulled the load off the deck when time went into slow motion. I've often read about it in *Approach*, but this was my first experience with it. Either the deck took a good roll, or my HAC wasn't able to hold it over the deck. As I checked power to make sure it was within our lift limit, I felt the airframe shudder, and we were flying off into the wild black yonder.

At this point, the ICS erupted, "We just picked up three pallets!" In that weather and with our fuel load, we should have been able to haul about 3,800 pounds. At that moment, we were flying with more than 8,000 pounds. The flying didn't last long. I saw 125 feet on the radalt; then we fell down a mineshaft, like getting too steep in an auto with a heavy aircraft. Nr drooped through 90 percent in a heartbeat, the radalt dropped through 50 feet like a stone, the VSI pegged down, and everybody started screaming, "Dump it, dump it!"

Luckily, our clever second crewman dumped about 8,000 pounds of sugar, flour, peanut butter and soda into the South China Sea. We were also very close to putting our helicopter and crew of four right next to the soggy chow. Even on that pitch-black night, I saw it splash through the chin bubble. The crew chief said he saw the same thing through the hell hole.

Sounds like quite a ride, but the hits just keep on coming, and this one wasn't over yet. We got rid of the pallets, but with both engines topped and the collective just above armpit level, where do you think we were headed? If you guessed the moon, you were right. We passed 500 feet with no airspeed, 1,000 feet and maybe 20 knots, and we both had severe vertigo. We got the nose over and thanks to some great basic instrument training, we got it under control and back on deck. The operation was FINEX, and we let another crew finish in the morning.

I'll never forget that night. I'll never forget that as long as I fly Navy helicopters at night around the boat, I'm in a deadly serious flying environment. If the weather is too bad, I won't hesitate to call it a night. The rules are there for good reason. Someone who was probably a lot smarter and more experienced than me made them.

Lt. Ryan flies with HC-11.

One Way for A-4s, Another

by LCdr. Ken Skaggs

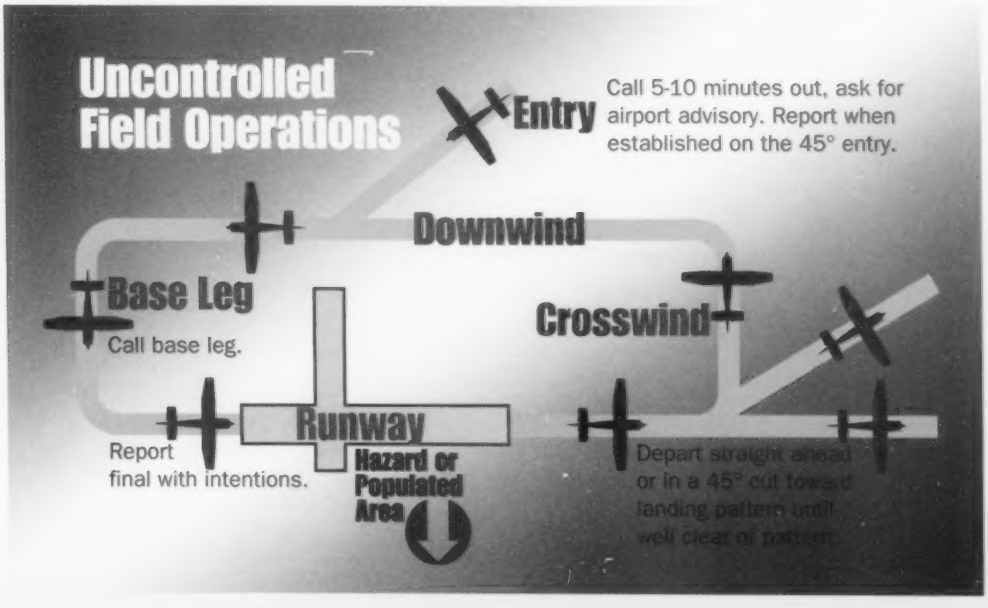
Way back in my days as an advanced jet student, my instructors came up with all sorts of shenanigans to squeeze the required items into a syllabus hop. One night, my instructor told me we'd be shooting a PAR into runway 13 at Kingsville and then doing an ASR to Kleberg's runway 31, an uncontrolled field five miles to the west. The wind was from the southeast, so the PAR made sense. The ASR didn't, but when I asked, he told me, "Don't worry, just descend to your minimum descent altitude using a little higher-than-normal rate of descent. This way, we knock out two approaches in one trip around the pattern."

If you're smarter than I was, you're asking yourself, "What about the civilians at Kleberg using the obvious runway, 13? After all, the winds favor that runway."

I didn't think about that. He was my instructor, and he told me he did it all the time when the winds were right. We'd have the taxi light on so the civilians could see and avoid us. When I asked about talking to the field, he told me not to worry about that either; the controllers would watch for traffic.

Everything worked out, and after I became a SERGRAD, I started using the same procedure. It seemed so efficient. I never hit anybody, and never even scared them – no one ever called the base and complained. I quit doing it after I bought a little Grumman Yankee and started flying out of that airport. I didn't want a beak-to-beak pass with an A-4 shooting an approach the wrong way when I was in the Yankee, and I didn't want to hit a civilian when I flew the A-4.

Last fall, at a small, uncontrolled airport in the midwest, two pilots failed to communicate their intentions even though they were supposedly talking to each other. They collided on intersecting runways. Fourteen


Uncontrolled Field Operations
Entry
Call 5-10 minutes out, ask for airport advisory. Report when established on the 45° entry.
Downwind
Base Leg
Call base leg.
Crosswind
Runway
Report final with intentions.
Hazard or Populated Area
Depart straight ahead or in a 45° cut toward landing pattern until well clear of pattern.

Way for You Civilians!

people lost their lives. Both airplanes had radios, and both pilots were using them. These were professional pilots flying a Beech 1900 and a King Air, and they still got bit by an uncontrolled field.

Military aviators occasionally fly into uncontrolled fields – training command and logistics people more than most. The problem is that a lot of us received no training in uncontrolled field operations. Things are a little different from our cozy, tower-controlled traffic pattern at NAS Homebase.

Obviously, uncontrolled fields have several unique hazards. What can you do to control them? First, start listening to the unicom frequency 15-20 miles out. This experience can be painful, because everyone talks at once, and you get that great squeal from conflicting transmissions because most uncontrolled airports share two major frequencies. At least you won't have any problem memorizing them (122.7 and 122.8). Of course, the noise bothers some pilots, so they turn off their radios (I'm not making this up). After you've carefully monitored the radio for 15 minutes, and your passengers have asked you what all the noise is about, you'll find someone barreling into the pattern without a clue. And, we haven't mentioned the pilots flying airplanes without radios – yes, they exist, and yes, they're legal.

Once you have figured out which runway is in use, set yourself up to enter the downwind at a 45-degree angle, about midfield. If you can't listen and decide what runway is in use, you can call on the unicom and ask. This is not the place to use your Pensacola gouge and say, "Saufley, landing," over and over until someone says, "What does that idiot want?" Instead, tell them who you are, where you are, and ask for landing information.

Announce your position on downwind, base, and final. While you're busy doing that, the guy without the radio might cut you off. Adjust your pattern to fit in with his.

This is an approved method for entering an uncontrolled field's landing pattern. Keep an eye out for other pilots in a big hurry who skip those procedures and just do a straight-in. If you're having a real bad day, there'll be some guy who never talks to anyone, just shows up and does a straight-in approach. He's legal, too, just not too considerate. Obviously, you'll want to keep your eyes outside while you're in the pattern.

There's more to uncontrolled fields than what I've put in this short article, so before you go, grab your nearest *Aeronautical Information Manual* and read up on uncontrolled airfield ops. The April 1997 issues of *AOPA Pilot* and *FAA Aviation News* also have indepth discussions of non-towered airport operations. Once you're there, you really ought to use the same runway as everyone else. That's what I was doing wrong around Kingsville and Kleberg: going the wrong way and not talking to anybody. Oh yeah, I was also failing to ask myself, "Is this stupid, or what?"

And now for the rest of the story...

by Peter Mersky

While I was waiting to go into the Navy in 1967, I picked up my civilian tickets at a flight school in Reno. The school was renting the huge Stead AFB, northwest of Reno Muni, which had the luxury of two 9,000-foot, hard-surface runways. There was even a well-appointed

Peter Mersky

...the Boeing seemed to fill the sky immediately in front of me.

control tower on the western side of the field that we opened during the week of the National Air Races in September.

Usually, our busy school was content with its unicom set at 122.8. (At that time, the only other unicom frequency was 123.0, used at controlled fields.) But there were times when we would have loved to hear the calm, clear and authoritative voice of a GS-13 cab controller, especially when the great 707 whales of United Airlines migrated from Denver.

The long, comfortable runways and relatively uninhabited airspace beckoned to these aerial behemoths, and it was common on a bright, sunny day to encounter one of these blue-and-white intruders settling comfortably into the pattern without so much as a "May I?" (Where does a 500-pound canary perch? Anywhere he wants!)

One day, as I wound my way around Stead's pattern, I prepared to turn base for a leisurely descent to the runway, barely 700 feet below. Still a recently-soloed student pilot, my air sense was in early stages of cultivation, and I allowed my attention to focus on the ground rather than remain on the air around me.

I don't know what made me do it – maybe the hairs on my neck tingled enough to tell me – but I brought my head up out of the left turn and there, sliding easily into downwind, was a United jet. I guess he was going too fast, and was too far away to have truly posed a threat, but puttering along in my little Cessna with its 100-horsepower Continental (barely 200 pounds of machined aluminum), the Boeing seemed to fill the sky immediately in front of me.

I quickly descended below his flight path and landed. I think I felt my 150's main gear actually shaking as we touched down. The airliner pilot made his approach, about a third down on final, then made a missed approach and quick departure – probably working off Reno's VOR. Not once did I hear him call in, and the people in the operations building, sitting by the unicom radio, never heard him, either.

Communication is all-important in these tender civilian fields. Size might make right, but it still behooves the drivers of larger, more powerful planes to tell their intentions and ask if the field's traffic will allow them to enter. United was not alone. Civilian Learjets also occasionally visited our inviting little field without a call, only they were harder to see and were also prone to blasting through the pattern in a blazing demonstration of speed and pilot disregard.

v your 3710?

5. Call-signs for cross-country flights:
   a. must use the squadron modex (AB 102, 2E 347).
   b. can be, if necessary, JANAP 199 approved call sign.
   c. must sound tactical on the radio.
6. GPS may be used for navigation if:
   a. all aircrew have attended CNO-approved GPS course.
   b. the GPS unit being used meets FAA-approval for IFR navigation.
   c. the aircraft has been certified for GPS navigation.
7. Tactical jets may operate above 50,000 feet if:
   a. they do not exceed the aircraft's combat ceiling.
   b. all occupants are wearing full-pressure or partial-pressure suits.
   c. the aircrew are alert for indications of hypoxia and descend immediately if indications appear.
8. True or False. Fixed-wing aircraft will not operate below 500 feet above the terrain or water unless it is necessary for the mission or when taking off or landing.
9. Actual instrument time will be logged:
   a. only by the pilot manipulating the controls in actual IMC.
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Answers: 1.a 2.c 3.c 4.c 5.b

Pop-Ups

- Goshawk Initiator Installed Backward
- Maintenance Forum on the Web
- ORM Published in *Proceedings*
- New Policy on Retreads
- USN-USAF Tanking Study
- Birds on Radar

Ejection Objection

A technician found a four-second-delay initiator installed backward on a T-45A ejection system. Its purpose was to send an electrical impulse to the mild detonating cord to shatter the front canopy.

This error could cause the backup 0.5-second delay mechanism to fire through the canopy, possibly resulting in serious injury if the pilot's head strikes the canopy before the breakers on the ejection seat.

An inspection of all Goshawks revealed three more aircraft with these initiators reversed.

"GreenShirt" on Internet

Naval aviation maintenance people have a new tool at their disposal – a World Wide Web site called "GreenShirt."

This unofficial forum allows maintainers to discuss such topics as lessons learned, technical information and safety issues. It includes a current listing of all maintenance officers in the Navy and Marine Corps, plus maintenance newsletters posted by various communities throughout the fleet.

GreenShirt's Internet address is http://greenshirt.nalda.navy.mil.

ORM Article in *Proceedings*

Looking for a detailed explanation of Operational Risk Management (ORM)? The January 1997 issue of the U.S. Naval Institute's *Proceedings* carried an article on ORM by Cdr. Kathy Ozimek, the ORM coordinator for the Naval Safety Center at the time. Cdr. John Mahoney has since taken over the position.

"The ability to address mission and safety concerns together in one process is a key benefit of ORM," Cdr. Ozimek writes. "Safety and mission accomplishments have often been viewed in the past as conflicting interests. ORM offers an alternative approach, which encourages an integration of these concerns into one overall mission assessment and allows us to dedicate limited time and resources to accomplishing the mission most efficiently."

Don't Retread on Me

After taxi, catapult and gear up, the FA-18 pilot felt a heavy thump passing through 3,000 feet. He also noticed an increase in wind noise and turbulence in the nosewheel-well area. His wingman reported a 3-by-5-inch hole just forward of the starboard nosewheel-well door. The pilot lowered his landing gear normally and recovered.

The right nosewheel tire, a retread, had blown out and punctured the Hornet's outer skin. Fragments could have damaged hydraulic lines or FODed engines, possibly resulting in loss of the aircraft and pilot. The tire had been retread four times and had accumulated seven catshots, 12 flights, and 17.5 flight hours before the incident. The tire had been properly inflated to 375 psi.

The squadron recommended a NATOPS change for the preflight checklist to ensure new – not retread – tires are installed when deployed on board ship. Another fix was to make sure new maintenance personnel know the difference between retread and new tires.

"The cost of losing an engine, aircraft or pilot is not worth the savings we get from using retread tires," the CO said.

Navy policy, recently issued by NAVAIRSYSCOM with the recommendation of NADEP North Island, the cognizant field activity, states nosewheel-tire retreads will no longer be used by FA-18s and F-14s operating from aircraft carriers.

Tanks a lot

Refueling between a USAF KC-10 tanker and a Navy FA-18 sometimes results in damage to the Hornet. The Air Force and the Navy have a drogue working group to study such incidents, including two FA-18 mishaps, one of which killed a pilot. The group called for reducing refueling speed to a maximum of 280 knots; this policy has cut down the number of incidents. The group also recommended increasing aircrew training and knowledge of operational limits of the KC-10.

The group believes hose-reel response accumulators are too old, allowing system reference pressure to bleed off during periods of extended hose deployment. They approved an improved accumulator, and 56 of 59 KC-10s have been modified. The system has been improved to its operational limit, which is still 280 KIAS and a maximum 2-to-3 knots of closure.

The group recently recommended that USAF speed up modification of the KC-10's centerline refueling pod and that the Navy set up a refuel-reporting program to document non-reportable refueling incidents. USAF has made all the funded modifications to the pods and doesn't anticipate any more improvements until additional funds are available. Pilots and squadrons should use the hazard-reporting system to document these incidents. Also, every aviator who tanks needs to know and comply with operational requirements of his aircraft and tanker.

New Bird-Strike Weapon

A WRS-88D weather radar will monitor bird movements to reduce the risk of bird strikes. Called NEXRAD, the radar will provide real-time information on the quantity of birds in the atmosphere within 200 km of the radar site. NEXRAD will give 8-minute updates on the density, ground speed and flight direction of birds.

Funding has been approved through FY97 from the DoD Legacy Conservation Program in support of the DoD Partners in Flight Program. The Bird Hazard Working Group determined the following Navy installations have the best potential for study sites because they're near a NEXRAD and have had bird problems: NAS Whidbey Island, NAS Norfolk, MCAS Cherry Point, MCAS Yuma, and NAS Fallon.

The system is scheduled to be operating in time for spring migration at the selected facilities and for all air stations by the fall migration.

Edited by Bud Baer. Contributors can contact him at (757) 444-3520 Ext. 7246 (DSN 564).

Milestones

Command	Date	Hours	Years
VQ-4	01/15/97	258,500	25
VC-8	01/19/07	36,000	11
VP-46	01/30/97	230,800	32
VT-28	02/14/97	43,000	2
HS-6	02/23/97	30,000	8
VAQ-138	02/24/97	27,500	15
VP-40	03/01/97	199,050	30
VMGR-452	03/02/97	30,000	8.5
VP-10	03/14/97	152,000	24
VAQ-139	03/21/97	8,700	5
VFA-195	01/08/97	60,000	14.5

Class A Mishaps

The Navy and Marine Corps had 8 Class A flight and flight-related mishaps before 8 January in FY97. The following mishaps occurred since 8 January:

Aircraft	Date	Command	Fatalities
SH-60B	01/08/97	HSL-46	0
Aircraft lost at sea, three aircrew recovered.			
S-3B	02/04/97	VS-22	4
Aircraft lost at sea.			
FA-18D	02/09/97	VMFA(AW)-121	2
Aircraft crashed into the water during ACM.			
EA-6B	02/14/97	VAQ-131	0
Aircraft landed hard during night trap to CV; upgraded from a Class B mishap.			
AV-8B	02/18/97	VMAT-203	0
Aircraft struck ground during decel to runway; pilot ejected.			
T-34C	02/26/97	VMFAT-101	2
Aircraft failed to arrive at destination.			
HH-60H	03/13/97	HS-3	4
Aircraft crashed into the water off the starboard bow of the ship after a waveoff.			
ES-3A	03/21/97	VQ-5	0
Aircraft's port MLG collapsed during landing rollout.			

Class A Flight Mishap Rate

	FY97* thru 2/28/97		FY96 thru 2/28/96	
	No.	Rate	No.	Rate
Navy/Marine	14	2.21	14	2.25
All Navy	7	1.43	9	1.95
All Marine	7	4.86	5	3.11
NAVAIRLANT	3	2.17	1	0.76
NAVAIRPAC	0	0.00	6	4.54
MARFORLANT	2	4.77	2	3.56
MARFORPAC	5	6.55	2	2.57
NATRACOM	3	2.22	0	0.00
NAVAIRRES	0	0.00	2	3.94
4th MAW	0	0.00	1	6.65
NAVAIRSYSCOM	0	0.00	0	0.00
Non-MARFOR	0	0.00	0	0.00
Non-TYCOM	0	0.00	0	0.00

*FY97 data subject to change.

Tear out this insert!
Post this newsletter until it's old news.

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Design and layout: Laurinda Minke
For questions or comments, call LCdr. Skaggs
(757) 444-3520 ext. 7245 (DSN 564)

Do you know

1. Position lights must be displayed:
   a. 30 minutes before official sunset to 30 minutes after official sunrise.
   b. between nautical sunset and nautical sunrise.
   c. anytime flight visibility is less than 5 statute miles.
2. Pilots can perform unusual manuevers (unscheduled fly-bys, climbs at very steep angles, unnecessary low passes) in class B, C, or D airspace:
   a. if requested to do so by ATC personnel.
   b. if the pilot-in-command asks for and receives permission from ATC.
   c. they cannot if the maneuvers are not essential to the performance of the flight.
3. In multi-piloted aircraft, vision-restriction devices may be used:
   a. from the beginning of the takeoff roll until landing.
   b. from gear-up during the takeoff until 500 AGL on the approach.
   c. from the beginning of the takeoff roll until approach minimums.
4. Flight plans should be signed by:
   a. any NATOPs-qualified pilot in the aircraft or flight.
   b. the aviator designated by the pilot-in-command.
   c. the pilot-in-command.

c 7.b 8.False 9.b 10.a

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Answers: 1.a 2.c 3.c 4.c 5.b

Feeling Great in Japan

by Lt. Eric J. Svenson

The rainy season in Japan was living up to its reputation. The weather at NAF Atsugi was overcast and drizzly, as it had been for the past three weeks. Once we were over water and south of Oshima Island, the weather cleared up, with not a cloud in the sky. It was nice to see the sunshine again.

After a 1.5-hour mission, it was time to RTB. We headed back north toward Oshima, but 22 miles away, you could see Atsugi was completely socked in. After listening to ATIS, our suspicions were confirmed. "Twelve broken, 20 overcast, 2 miles visibility with drizzle. PAR in use, landing runway 01." Approach checks complete, we contacted Yokota Approach and began our descent.

Following landing checks and minutes from being on deck, I was feeling pretty good. This was my seventh flight in my new squadron, and I was flying copilot for the XO. We began the GCA at 4 DME, 1,500 feet. I reviewed the landing checks, and at that moment, I smelled a sweet odor and noticed the sky took on a brownish tint.

I asked the XO if he smelled it too. He agreed, and we decided that, since it wasn't smoke or burning fumes, we would investigate on deck. At the same time, the ACO confirmed that we had just flown through a distinct brown cloud.

At 3.5 DME, 1,200 feet, going slightly above glide path, drifting left of course, man, I was feeling really good. Next, we were well above glide path and climbing, well left of course. Despite how great I felt, I knew something was wrong. I looked at the XO, who appeared to be staring at the ADI and not responding to the GCA controller. I asked him if he was all right, and he replied, "I feel kind of funny." At this point, I could not focus on the cockpit instruments, and the GCA controller was getting faint.

I was now positive something was seriously wrong. Inside of 3 DME, going well above glide path, well left of course, in and out of clouds, runway not in sight and both pilots not responding to the GCA controller. I told the XO, "I feel like I'm going to pass out. Go on oxygen."

After grabbing our oxygen masks and taking a couple of deep breaths, the XO said, "I'm OK." He recentered the needles, and we managed to salvage the approach. Once on oxygen, we recovered in seconds, although we felt "washed out" for several hours afterward.

As we taxied back to our line, the XO and I realized how lucky we were. In the debrief, we concluded that we had flown through the plume cloud from an incinerator near the approach end of the runway. The outcome could have been disastrous if we had not responded immediately.

Afterwards, the entire crew went to medical to donate blood and urine samples, the results of which are still pending. The speed and magnitude of the onset of symptoms were chilling. The entire episode took 15 to 20 seconds.

Beware of dismissing an odor because you think the aircraft itself is not sick. Any new odor and any new feeling (great or otherwise) demands oxygen now!

Lt. Svenson flies with VAW-115.

The Fresh Pilot and

I had recently been designated a mission commander, halfway to my 1,000-hour patch, and felt good about life in general. Better yet, I was crewed with our new pilot fresh from the FRS. Salty fleet RIO that I was, it was my job to train him in the ways of the embarked world.

We were scheduled to put some 20mm holes in the banner being towed by a hinge from our squadron. The brief was standard, with the only noteworthy item being marginal weather in the gunnery area. We planned for the inevitable AIC as our secondary mission, but it really didn't matter. We were two JOs, ready for any flight time at all, and with a Case I launch and recovery expected, we owned the world.

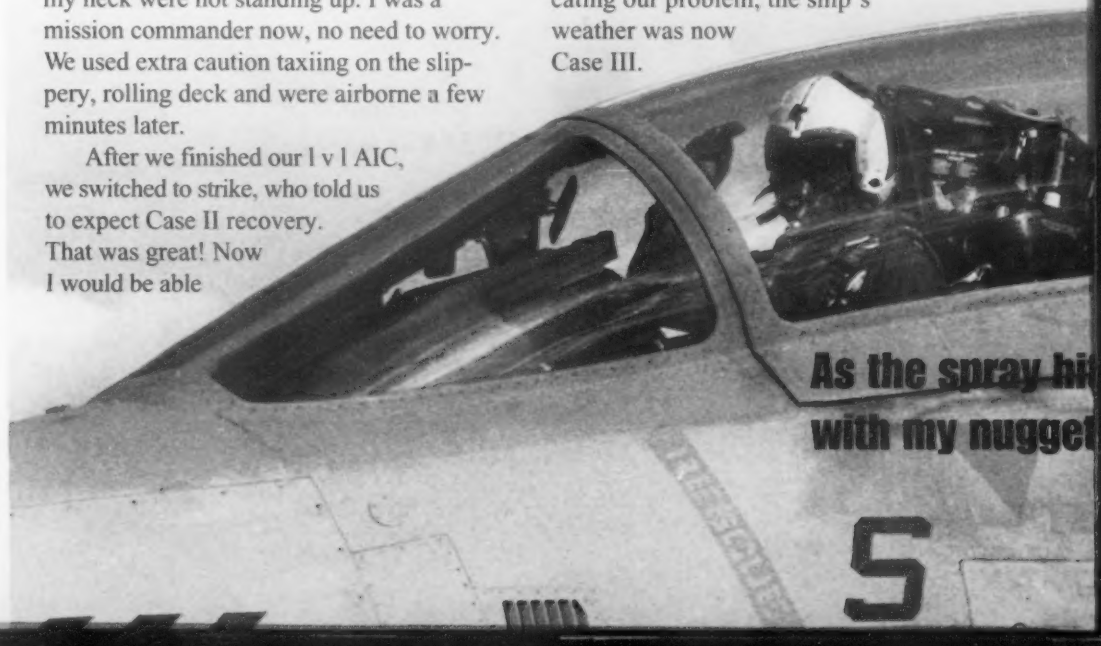
Once we got up to the roof, however, Case I looked a little optimistic because of the drizzle and gusty winds. As the spray hit the canopy and the deck began to move, I began joking with my nugget pilot that he would have a good sea story after our mission. I should mention that the hairs on my neck were not standing up. I was a mission commander now, no need to worry. We used extra caution taxiing on the slippery, rolling deck and were airborne a few minutes later.

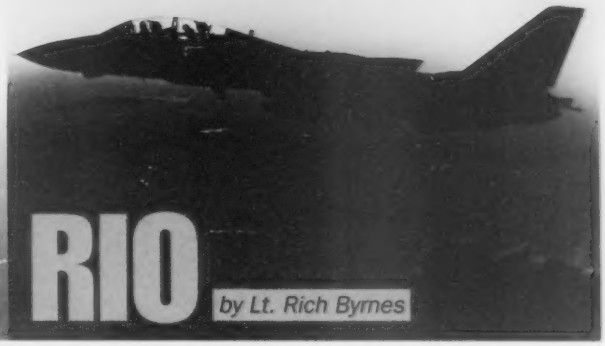
After we finished our 1 v 1 AIC, we switched to strike, who told us to expect Case II recovery. That was great! Now I would be able to train the new guy in our air wing's marshal procedures and still come in for a terrific break.

Just as we rendezvoused with the flight lead, I felt our jet thump slightly. My experience told me that it was just the wings jumping around because of computer transients – a very common occurrence in the F-14. When I looked at the wings, I was surprised to see them at 20 degrees (as per the normal schedule) and not moving at all. Hmm, maybe I didn't know everything. I was still speculating when the pilot told me we had a hydraulic-pressure caution light and that he had secured the bi-directional hydraulic pump (the primary backup to the main hydraulic systems).

I asked what the pressure of each hydraulic system was indicating, and he replied combined pressure was zero, a serious situation in the Tomcat. I immediately told lead about our emergency status, and he began coordinating with marshal.

The recovery was already in progress as we went through the PCL. Further complicating our problem, the ship's weather was now Case III.





the Salty RIO

by Lt. Rich Byrnes

I was faced with figuring fuel for a 400-mile divert, getting through the PCL procedures, keeping my pilot focused, guessing how hard our approach to the deck would be, and ruefully remembering my sea-story prediction.

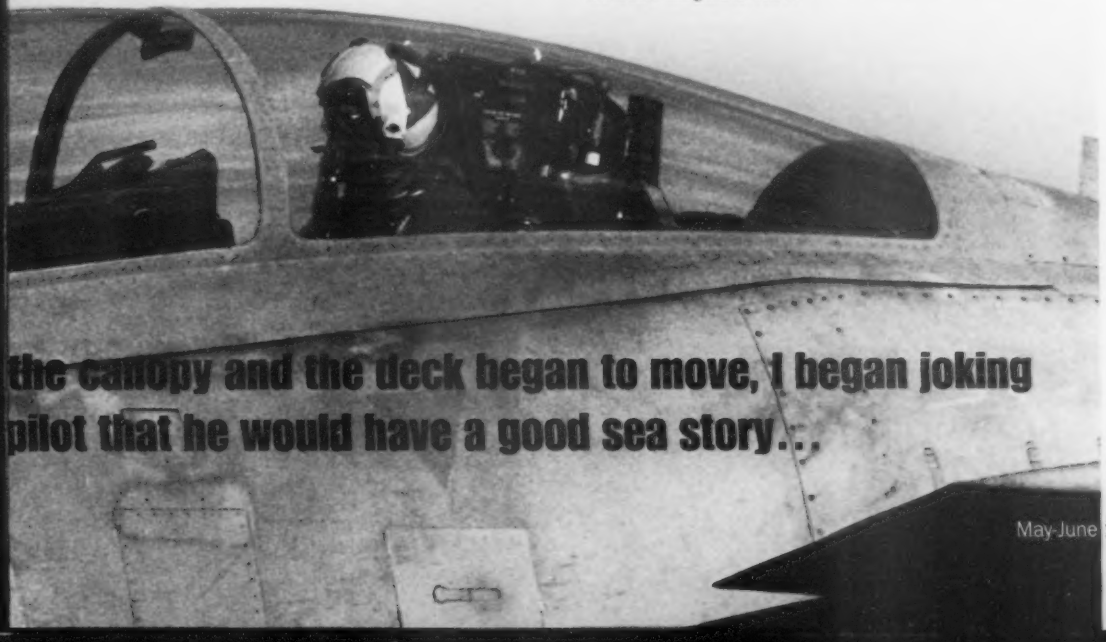
We remained at altitude for weather while blowing the gear down (it took 45 seconds to get a good nose-gear indication). We would be max trap on the ball and got a normal on-speed indication with no aux flaps and DLC disengaged. The CCA went well, and the needles looked fine as we got closer. Things were starting to look up – until the ball call.

We were clara, and paddles couldn't see us, either. We couldn't get there from where we were, so we went around and rejoined our lead, who was hawking us. At the next hook-in, he kissed us off, and I gave my saltiest, most confident "See you on deck. Thanks for your help."

My fun-meter was reaching an all-time low after the second pass. The pass was well within parameters, but we didn't see the ship until we started our waveoff. On the third pass, we discovered that lineup was very difficult with the standing water on deck, and again, we joined some of our air-wing bubbas on downwind. The LSOs helped out with several lineup calls on the fourth pass, and we finally trapped. After being towed out of the landing area and shut down, we found a 3,000-psi attenuator line had chafed through, allowing all the fluid in the combined-hydraulic line to escape.

After our debrief, it was clear to me that on every flight we need to be ready to handle any situation. I was fortunate to have an experienced flight lead with whom we could discuss our options. We were also lucky that fuel was not a problem. We had briefed an early knock-it-off to get some extra traps for my pilot. Things would have been much worse if low-fuel, get-aboard-itis or tanking had come into play.

Lt. Byrnes was flying with VF-21 at the time of this story. He is now assigned to VX-9.



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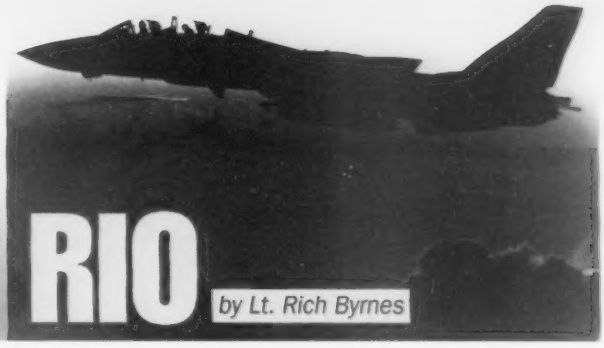

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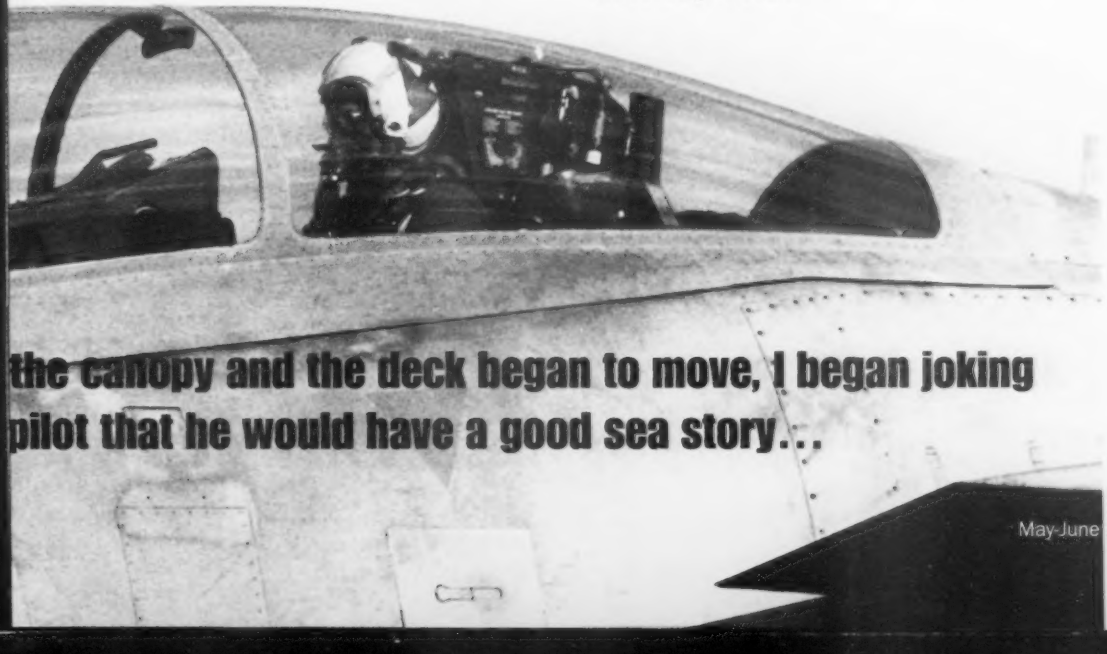

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In Yer Fa

by Lt. Christopher Straw

Some people always do their best not to listen. You just can't tell them anything, because they're going to do what they want.

I'd just finished taking part in a multi-service static display during Armed Forces Day weekend. My SH-60B was one of eight aircraft staged close to each other in a semi-grassy area with loose dirt. We'd had three days of non-stop questions from thousands of people.

We preflighted and did a thorough FOD walkdown with the other aircrews. During this time, a crowd of about a hundred people had materialized in the parking lot directly across from the aircraft. No big deal, except they were only 40-90 yards away. A little voice in my head whispered, "Don't look now, but I see an *Approach* article coming."

I realized this togetherness might be quite detrimental to the health and welfare of the people and cars ahead of us. Of the 30 pilots and aircrew present, I was apparently the only one willing to embarrass myself in front of the onlookers. Wearing my SV-2, earplugs and helmet, I approached the crowd and waved my arms to get their attention.

"Laaadies and geeentlemen, can I have your attention pleeeeze," I cried, trying not to sound like a circus ringmaster. "In a few minutes, these aircraft will turn up and leave. As they do, all the dirt, rocks, cans and paper you see here" – I waved my hands around for effect – "will become airborne. For your safety, don't look directly at the helos as they take off. Thank you."

As I stepped back from screaming at the top of my lungs, my O-4 copilot quipped, "Nice broadcast." I heard applause, immediately followed by, "Yeah, right – shut up," "Stick to flying!" And "Hakuna matata!" I knew that my oration had been a necessary but wasted effort. What made me think they would listen? No one moved.

As rotors began to engage, the crowd appeared to be cheering with enthusiasm and anticipation. The first aircraft to leave was an OH-58, and because of its location, it was able to side-step most of the crowd. Its whisper-light rotor wash couldn't put fear into people's hearts. The venerable UH-1 was next to depart, but that helo's relatively light wash still didn't faze onlookers, either. Unfortunately, playtime was over.

A USCG Dolphin was sitting in a patch of light dirt, so no matter what takeoff the crew would use, there was going to be some serious action this time. As the Dolphin lifted into a quick hover, a huge dust cloud began to build and roll toward the spectators. As they were engulfed by the cloud, people ducked, covered their faces and ran. Hats were blown off, rocks and dust flew, cats and dogs lived together… It was chaos!

ce!

After the aircraft departed, the crowd returned to its original position, despite the abrupt retreat.

We selected an obstacle clearance takeoff to 150 feet to try to avoid the previous melee. However, the 80-knot rotor wash still wreaked havoc with our persistent spectators. As we climbed out, two CH-46s made a formation takeoff, and their combined wash made the biggest cloud yet, enveloping the crowd even before the helo transitioned to forward flight.

You wouldn't turn up on the ramp with a group of people standing behind your plane captain without eye and ear protection. Hazards extend beyond the aircraft and crew. Many people don't understand what will happen to a rock or patch of dirt when lifted by 80-knot winds. Unfortunately, no options were available because of an unalterable, 10-minute launch window. The proximity of the aircraft, location of trees, and the wind direction gave us only one launch path. Police had already left the area to direct traffic, so there was no way to prevent people from approaching the launch area. If more consideration could have been given to security before launch, we might have avoided this situation.

Lt. Straw was with HSL-44 at the time of this incident. He is now an instructor with VT-4.

What made me think they would listen? No one moved.

BRAVO Zulu

BZs require an endorsement from the nominating squadron's CO and the appropriate CAG, wing commander or MAG commander. In the case of helo dets, the CO of the ship will suffice. A 5-by-7-inch photo of the entire crew by a squadron aircraft should also accompany the BZ nomination. Please include a squadron telephone number so we can call with questions.

VMFA-122

Capt. Peter D. Ponte

As the lead of a division strike into R-3007 Townsend Range, Capt. Ponte encountered large birds while on VR-1004 at 800 feet AGL and 540 knots. Capt. Ponte pulled up to avoid the birds, but his FA-18 struck one. The bird hit the right side of the Hornet's radome and traveled aft, striking the pitot tube and leading edge of the right intake before being sucked into the right engine.

Capt. Ponte felt the thud and immediately noticed the right fire light illuminate as he heard the "engine right" voice caution. He checked his engine instruments and confirmed secondaries. He called, "Knock it off!" then went through the NATOPS boldface procedures for engine fire. Capt. Ponte climbed, declared an emergency, and turned back toward MCAS Beaufort.

En route, his wingman confirmed the fire was out. Capt. Ponte dumped fuel and said he would make an arrested landing at Beaufort.

After detaching two of his wingmen to recover individually, Capt. Ponte extended his landing gear with the emergency backup because the right engine had seized. The right mainmount did not indicate down-and-locked. When his remaining wingman checked the gear, he saw that it was canted approximately 10 degrees from the vertical. An experienced FCF pilot, Capt. Ponte exhausted all methods to get the gear down and locked.

With emergency vehicles ready, he flew a straight-in approach and touched down 250 feet before the arresting gear; the right gear retracted under the weight of the aircraft. As the Hornet slowed after catching the arresting gear, it began drifting to the right. Near the end of the arresting gear runout, the aircraft yawed sharply right and stopped with the left mainmount on the runway and the nosegear eight feet off the runway. The pilot got out as the emergency vehicles approached.

Inspection of the right engine bay showed little damage to the aircraft in spite of catastrophic FOD damage to the right engine. The failure of the emergency landing-gear extension is being investigated.

Lt. McGuire
LCdr. Turner
AW2 Irion

HSL-37

LCdr. Mark Turner
Lt. Larry McGuire
AW2 Michael Irion

Easyrider 60 was flying an SSC dusk patrol under the control of USS *Reuben James* (FFG 57). Approximately 2.5 hours into the flight and 55 miles ahead of the ship, LCdr. Turner (HAC) saw that the oil pressure for the main transmission was 32 psi (45-60 psi is normal). Lt. McGuire (H2P and PAC) immediately headed for the frigate and began a slow descent from 3,000 feet, while AW2 Irion provided vectors.

The ship set emergency flight quarters and closed at best speed. LCdr. Turner completed EPs for low transmission-oil pressure while Lt. McGuire monitored the gauges for secondary indications of transmission failure. The crew also reviewed the checklists for shipboard landing and for immediate landing and ditching.

LCdr. Turner flew a modified approach to intercept the glideslope at a quarter mile and 125 feet. Crossing the fantail, the caution light for main-transmission low oil pressure came on, and the gauge pressure dropped to 15 psi as power was increased to hover torque. LCdr. Turner made a free-deck recovery and shut down.

Postflight inspection revealed five gallons of the main transmission's 7.5-gallon capacity had drained through a crack in the oil cooler.

Capt. Finley
1stLt. Braatz

HMT-303

Capt. Michael J. Finley
1stLt. Robert J. Braatz

During a basic conventional weapons delivery sortie, the crew noticed a mist of dark oil accumulating on their Super Cobra's canopy as they stabilized in a hover-hold. Five seconds later, the helicopter began severely vibrating, and oil covered the plexiglas.

Capt. Finley turned toward a landing site and safed the remaining nine 2.75-inch rockets and the gun. First Lt. Braatz safed the armament switches in the front seat and helped locate a landing site.

The crew landed at a nearby administrative landing zone with a smooth, hard surface, on a heading that would keep the rockets and gun pointed toward the impact area and away from nearby barracks.

Inspection of the main rotor system showed that the grip-oil drain-plug housing and plug for the main rotor head were missing. The combined weight of the missing parts and the oil that leaked out caused a lateral shift in the center of gravity. The shift caused vibrations in the flight-control system and a breakdown of the internal main-rotor blade grip's elastomeric bearings. The potential for catastrophic failure of the flight-control system was extremely high.

Lt. Barcomb
AD3 Joyner
Lt. Holt

VC-8

Lt. Creighton Holt
Lt. Chris Barcomb
AMH1 Dan Sanderson
AD3 Robert Joyner

After two day-landings, Lt. Holt (HAC) passed control to Lt. Barcomb (H2P) for two more landings. After one landing, Lt. Barcomb pulled into a hover, cleared the ship's superstructure, and transitioned to forward flight. Passing through 60 feet and 45 knots on the ship's port side, the helicopter yawed sharply to the right.

Lt. Holt noticed a master caution light indicating decaying rotor rpm and heard the sound of decreasing rotor speed. He immediately pushed the speed selectors full forward and glanced down to see the rotor rpm decreasing through 93 percent.

Taking control, Lt. Holt lowered the collective and tried to regain rpm while Lt. Barcomb backed him up with altitude calls. In a level attitude, they accelerated to a safe single-engine airspeed and started climbing. The HAC then began a gradual turn toward the nearest paved runway on an island 12 miles away.

Analyzing the situation, they noticed torque on the No. 1 engine at zero with all other gauges indicating partial power on that engine. Believing they had a loss of NG signal to the fuel control, Lt. Barcomb followed NATOPS by testing the effectiveness of the No. 1 speed selector. AMH1 Sanderson (crew chief) backed his pilots up with NATOPS information while AD3 Joyner (SAR swimmer) provided visual clearance. Confirming the nature of the failure, the crew checked power available, which indicated that they could not make a hover landing.

Approaching final for a running landing at a closed airfield, the crew saw a dead horse and other debris on the runway. Considering these obstructions and the lack of a crash crew, they diverted eight miles to NAS Roosevelt Roads, where they made a running landing at 40 knots.

Postflight revealed a loss of NG signal to the fuel control, causing the No. 1 engine to roll back and the variable-stator vanes to remain in their full-closed position. Using the manual throttle with variable-stator vanes in the closed position can overtemp the engine.

Lessons Learned

There are two ways to get smart. One is through experience – we call this "the hard way." The other is to learn through others' experiences. The second method is much easier on our machines and bodies.

Let There Be Lights

by Capt. Jeff Jaques, CAF

The FA-18 pilot was on a night CQ refresher, his third flight after nearly 13 hours on duty. Squadron SOP limited the aircrew to 12 hours and two flights a day, unless waived by the CO. His lead asked the embarked-squadron's OinC to seek a waiver. The OinC couldn't contact the skipper so the pilot continued without a waiver.

After the night launch, the pilot chose not to use the 20-minute comfort time and was unprepared for an immediate night carrier approach. He didn't complete the CV landing checklist, which included setting the Hornet's wingtip-light intensity. The LSOs let the pilot continue the approach even though the insufficient lighting made it hard for them to judge range and depth.

The pilot was not adequately prepared for the final approach, was constantly chasing the glideslope, and did not react to a waveoff instruction until 1.8 seconds before striking the ramp. The tailhook struck the ramp on centerline, 10 feet down the ramp.

The left and right main landing gear struck 3 and 12 inches, respectively, below the edge of the ramp. The force of the strike damaged the right gear and the tailhook. The Hornet continued along the deck. Its tailhook engaged the 3-wire, but the hook point separated from the aircraft.

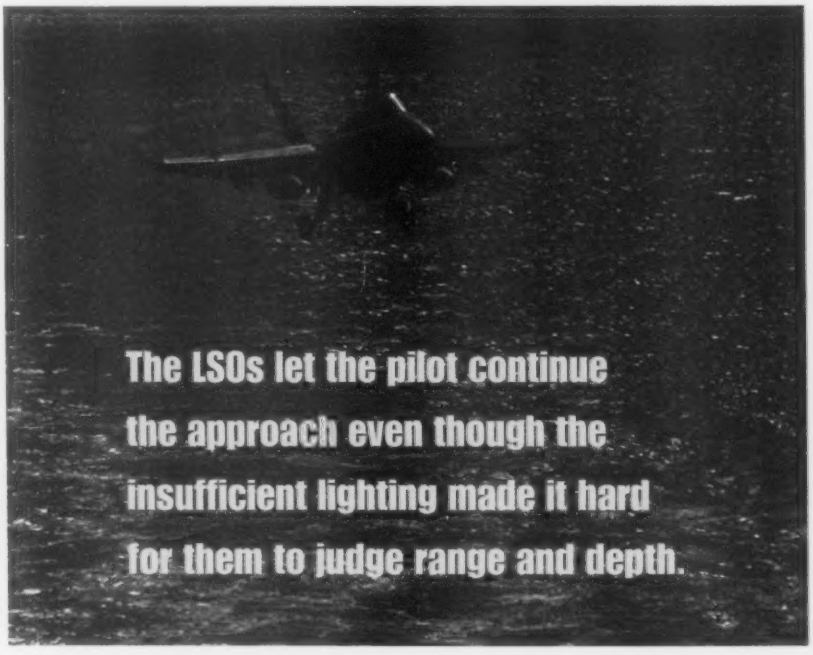
The pilot boltered, then bingoed to an NAS. A second Hornet pilot en route to the same NAS joined up to look at the damage. He reported the right wheel and tire assembly were canted 45 degrees at the leading edge. The first pilot did emergency NATOPS procedures to a straight-in approach, touching down on the left side of the runway.

The crippled FA-18 got into an uncontrollable right drift on landing rollout. As it went off the right side of the runway, the pilot ejected. He survived but was seriously injured because he ejected outside of the envelope.

Lessons Learned

1. Prior to turning on final to the carrier, the pilot should have realized he wasn't ready for the approach and requested a break-out from the pattern to reorganize.
2. The lead pilot and the embarked-squadron's OinC should have canceled this unauthorized mission.
3. The pilot should not have been able to waive the 20-minute comfort time allotted for night CQ refresher training.
4. The LSOs should not have accepted the Hornet with its external lights at the wrong intensity. Rules are needed to ensure that LSOs do not accept such landings unless previous arrangements have been made or there is an emergency.

Capt. Jaques is an analyst at the Naval Safety Center for the FA-18, F-5 and T-38. He is on exchange duty from the Canadian Air Force.



The LSOs let the pilot continue the approach even though the insufficient lighting made it hard for them to judge range and depth.

Don't Sleep Naked

by Ltjg. Kristen Lopacinski

Peter Mersky

"White smoke, white smoke!" How often have you heard that announcement over the 1MC? I've heard it twice on board my carrier, and "This is a drill" wasn't in front of it.

I lived in the main space on the last boat detachment. The low-noise level was awesome. You could sleep, read, watch television and concentrate any time of the day, or so I thought at first. During the first week of RIMPAC '96, at the AOM, we were told to do a blindfolded egress drill from our staterooms to the flight deck.

"How silly," I thought, and filed it away in my list of things to do when I was really bored.

A few nights later, at 0200, one of my roommates shook me awake. "Fire, fire!" she said. "We have to get out!"

Everyone else was already out of the room, and I saw several men in firefighting gear moving in and out through the passageway. I threw on my running shoes and headed for the door.

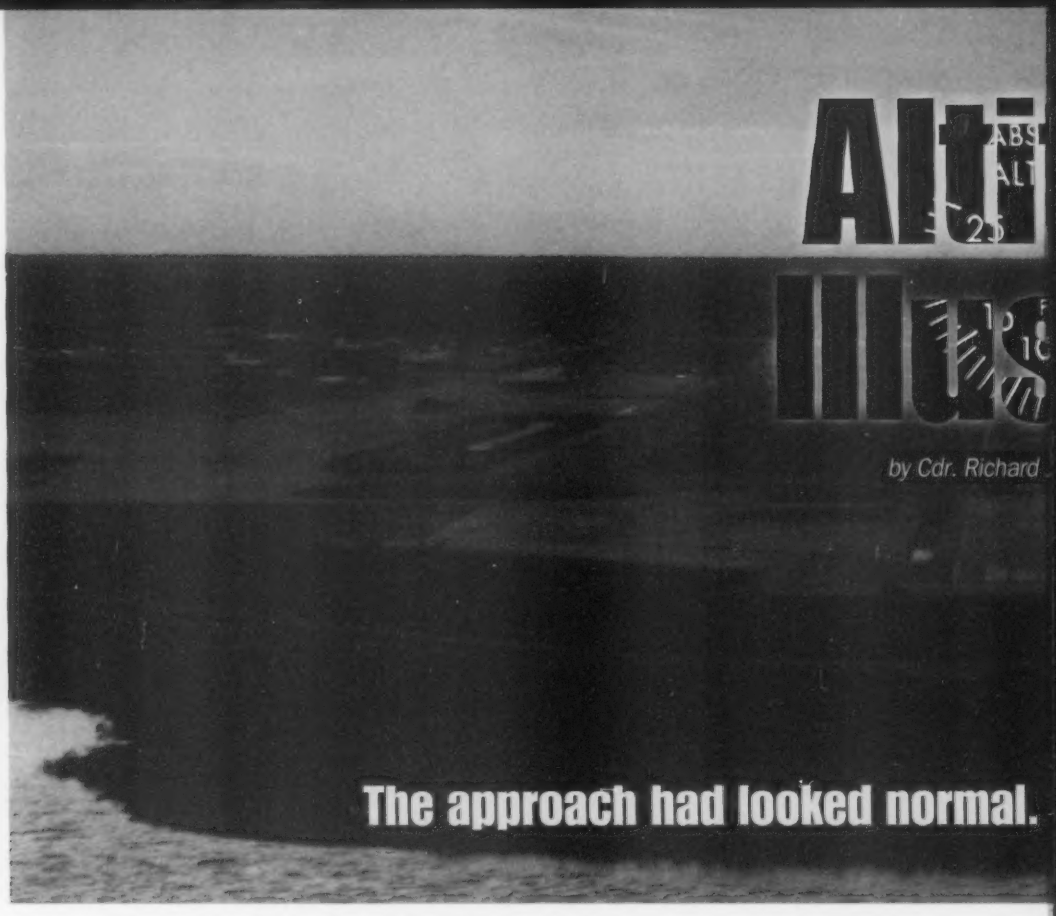
The air in the room was clear, but in the passageway there was a foggy tint, and I smelled smoke. The firefighter directed me up the nearest ladder and through the hatch. My heart was beating fast, and I felt helpless and confused. I got to the hangar bay, where my roommates were formed in a gaggle. Several women stood with their arms crossed, while some were barefoot, fending off the shivers. I felt lucky to have grabbed a sweatshirt and shoes.

I had slept right through the announcement and the commotion that followed. If the fire team had not been there to direct me, I might have been down there longer, inhaling smoke or getting burned. I might not have found my way out.

It shouldn't take a brush with diaster to convince you to prepare for the worst. Everyone should know the quickest, most direct route out of their quarters and identify an alternate escape route. Stow a flashlight by your rack. Get into the ship's SORM and learn damage control. Keep your shoes near, and do a blindfold egress drill. And by all means, don't sleep naked!

Ltjg. Lopacinski is the intelligence officer for VAW-117.

"Fire, fire!" she said. "We have to get out!"



Alti

Illus

by Cdr. Richard

The approach had looked normal.

It was dark as the KC-130 cruised at 6,000 feet MSL. The weather was 900 scattered, 1,500 broken, and 3,000 overcast with 12 miles visibility. The plane commander noticed that No. 4 engine's low-prop-oil light had come on. (It was later proved to be a faulty indicator.) Following NATOPS, he secured the engine. Then he radioed center requesting vectors to the nearest suitable airport while the very junior copilot got out the approach plates. Center suggested an airport with an ILS approach. Although he had never landed there before, the plane commander readily accepted the suggestion.

At about three miles out, the pilot decided to abandon the ILS approach and go visual. This particular runway didn't have VASI lights. Without using the glide slope indicator, the pilot really couldn't tell if he was too high, too low, or on glide path. Since the approach looked normal to the pilot, he continued. The copilot, while continuing to monitor airspeed, abandoned his scan pattern and did not give the briefed altitude calls after the pilot announced he had gone visual.

At about 650 feet from the runway threshold, the KC-130 struck the top of the ILS antenna 85 feet below the normal glide slope. The pilot aborted the landing, circled the field and landed. The aircraft sustained only minor damage to the right main landing gear. If the aircraft had been a foot or two lower, the damage could have been much worse.

The approach had looked normal. So how did the pilot get too low? As it turned out, the pilot was used to landing on a runway 200 feet wide, and this particular runway was only 150 feet wide. The narrow runway gave the impression of an approach that was too high. Unknowingly, the pilot had compensated for this by descending until everything looked normal. This, coupled with the lack of visual cues at night, set up a disaster.

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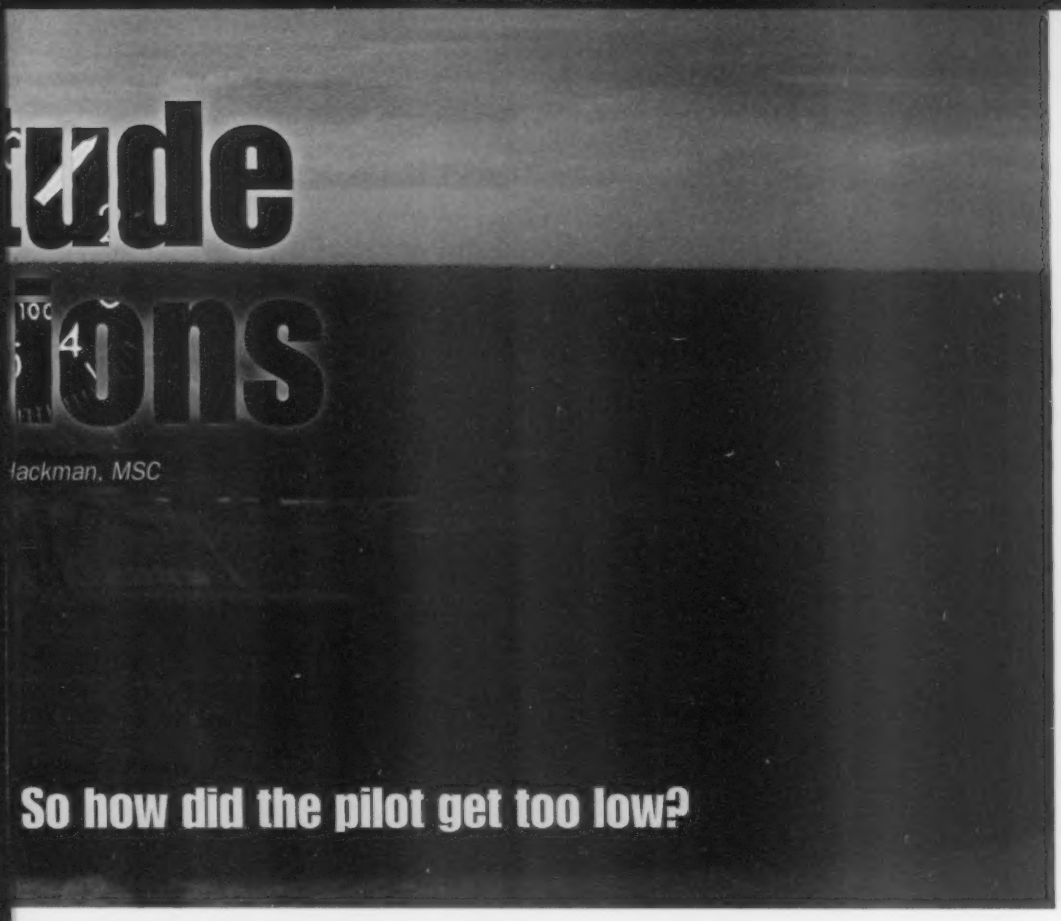
lackman, MSC



So how did the pilot get too low?

The illusion described above is called "the runway width illusion." When the runway is narrower than normal, the pilot flies a lower approach, running the risk of striking objects along the flight path (as above) or landing short of the runway. If the runway is wider than normal, the pilot thinks he is too low and flies a higher approach, running the risk of leveling off too high, landing hard, or overshooting the runway.

The slope of the runway or terrain can also affect a pilot's perception. An upsloping runway or terrain creates the illusion of greater height, and thus can make a pilot fly an approach that is too low. Likewise, a downsloping runway or terrain creates the illusion of less height, making a pilot fly too high.

If you don't see the clear image you expect, you assume you are farther away from the object than you really are. After all, when you get closer to something, it appears clearer. So if it's not clear, it must not be near. Haze creates the illusion of greater distance, while rain on the windscreen creates the illusion of greater height. An approach made over featureless terrain, such as water or a darkened area, will create an illusion of greater height (there's nothing clear out there, so nothing must be near!). All three of these illusions result in flying an approach that is too low.

The closer you get to a light, the brighter it appears. Subsequently, the brain interprets a bright light as being near and a dim light as being far away. Hence, if runway or approach lights are brighter than normal, they create the illusion of less distance. This causes the pilot to fly an approach that is too high.

These "approach illusions" lead to landing errors – errors that can be deadly. The lesson to be learned is that VASI lights or an electronic glide slope should be used whenever possible. Also, you should frequently check your altimeter during all approaches, both day and night.

Cdr. Hackman is an aviation optometrist and an aerospace physiologist with the Naval Aerospace and Operational Medical Institute in Pensacola.

Herk vs. the

by Lt. Al MacGregor

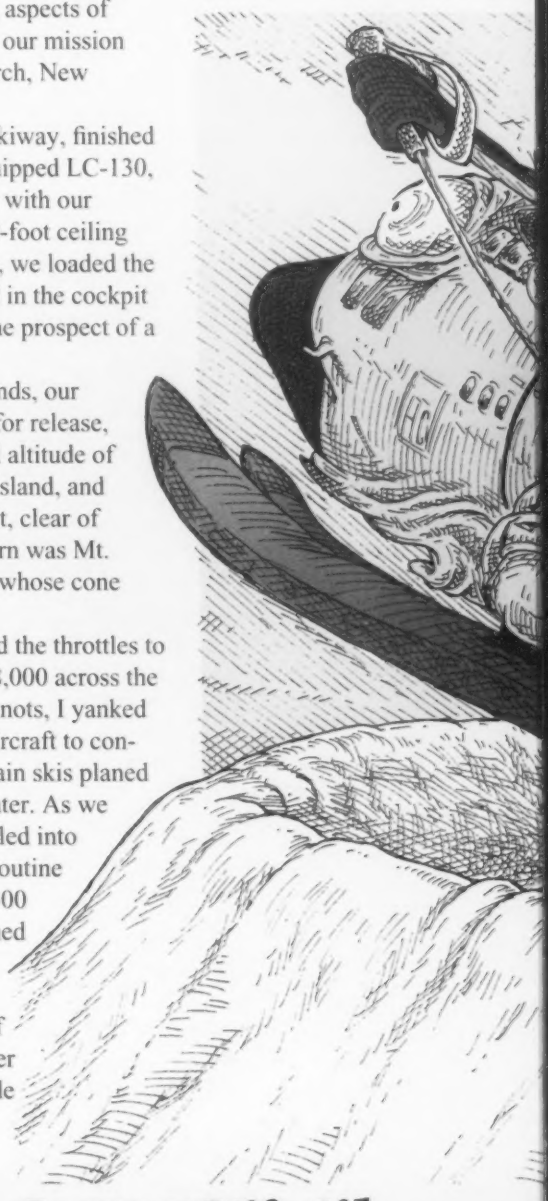
Three-and-a-half months into my third deployment to Antarctica with VXE-6, I had gotten used to many of the unique and challenging aspects of flying in the polar environment. One day our mission was easy: fly 27 passengers to Christchurch, New Zealand.

Soon after the brief, we were at the skiway, finished with loading and preflighting our ski-equipped LC-130, and ready to launch. After another check with our weather gurus, who told us we had a 300-foot ceiling with the nearest VMC above 12,000 feet, we loaded the passengers and got underway. The mood in the cockpit was great; everyone was excited about the prospect of a couple of days in Christchurch.

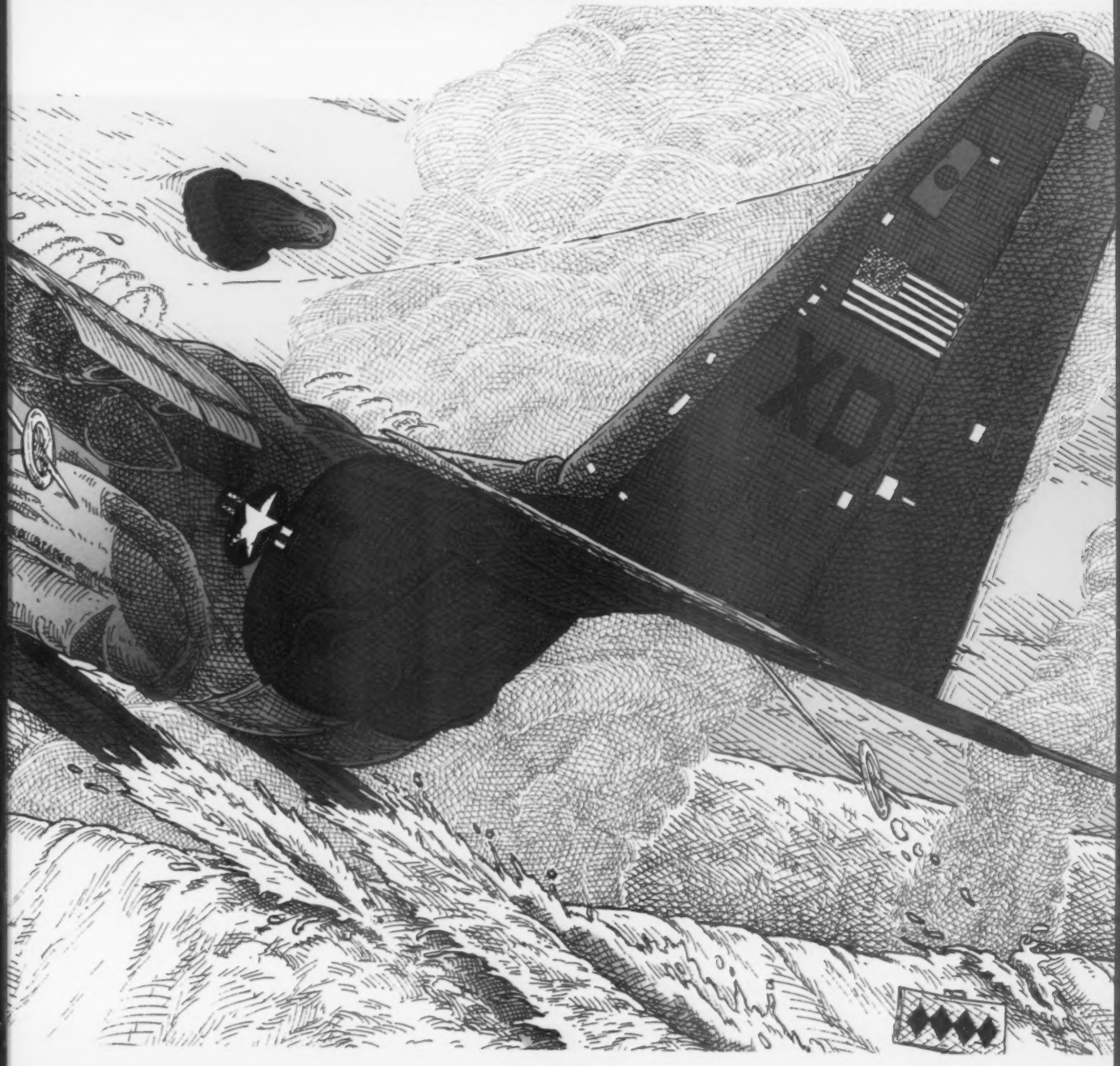
We taxied for takeoff at 148,000 pounds, our max-gross weight on skis. After calling for release, we were cleared to depart up to an initial altitude of 3,000 feet. McMurdo Station lies on an island, and our departure would take us away from it, clear of any en-route obstacles. Our major concern was Mt. Erebus, the active volcano on the island whose cone reaches 12,800 feet.

After we took the skiway, I advanced the throttles to 15,000 in/lbs, and my copilot then set 18,000 across the board as we began to accelerate. At 60 knots, I yanked the nose ski off the deck, allowing the aircraft to continue to accelerate on the snow as the main skis planed out, much as a boat planes out on the water. As we passed 90 knots, the heavy aircraft hobbled into the air – well below Vmca speed, but a routine takeoff for an LC-130 on skis. Passing 300 feet, we were in the goo, and I transitioned to instruments as the nav called out an initial heading to Byrd intersection.

Soon after we completed our takeoff checks, we switched up McMurdo Center to pick up the rest of our climb to altitude and out of the cloud deck. As I began the climb, the nav got on the radar.



Volcano



I honestly thought I was going to hit the volcano.

After a brief check of our position, he cleared us direct to our first point north, cutting the corner on Byrd and taking us over Ross Island and toward the volcano.

At the time, I didn't think twice about this call, since it was a routine time-saver on a long flight north. On top of that, the nav had checked the radar, so I had no reason to assume we were anything other than clear of any obstacles.

As we passed 9,000 feet on our climbout, I settled into my seat and began thinking about Christchurch and where to eat when we arrived. What occurred next was my worst Antarctic nightmare. I had read about the disaster that had befallen an Air New Zealand DC-10 that had run into Mt. Erebus several years earlier. My heart about leapt out of my chest when, out of the corner of my eye, I watched the radar altimeter jump off the peg of 5,000 feet to 4,000 feet, then continue to head toward 3,000 feet.

I yelled at the navigators, "Where in the hell is Erebus?" This reaction, on reflection, was highly inappropriate, because the volcano was obviously directly in my flight path. My dumbfounded nav looked up from teaching his student, completely unaware of why I was yelling.

I got back on the instruments as the radar altimeter dropped below 3,000 feet. At this point, all my instincts told me to climb, climb, climb! I slammed the throttles forward and yanked back on the yoke.

Even as the climb rate increased toward 4,000 fpm, the radalt continued its descent. We stared as it plunged below 1,000 feet.

When my airspeed dropped below 120 knots, I knew I had to shallow the climb to avoid stalling. Reluctantly, I let out some back-pressure on the yoke. As I lowered the nose, not knowing what to expect next, I cross-checked the altimeters. The barometric gauge was reading over 13,000 feet. The radalt was falling below 400 feet.

I honestly thought I was going to hit the volcano. Suddenly, the plane lurched and it felt like the bottom had dropped out. At first, I thought we had stalled, but a quick airspeed check confirmed we were at 125 knots, increasing to 130. The radalt was steady at 200 feet, then began rising as quickly as it had fallen.

At that point, I realized that we had just passed over the crater, and the thermal from volcano's molten core had caused the violent drop.

The LC-130 began to accelerate normally as we broke out of the clouds that had surrounded us during the climb. I could not believe what had just happened. The aircraft was my responsibility, as was the safety of all the people on board, and we had almost crashed into a volcano. I felt sick to my stomach, "How did this happen?" I kept asking myself. What chain of events had led us almost to the point of a catastrophe? I wanted so badly to blame the navigators for not paying attention and giving me a heading into impending disaster, but part of me knew that it wasn't altogether their fault. The remainder of the flight north to New Zealand was silent, mainly because no one really knew what to say to each other. I wondered if any of the 27 passengers had any idea just how close they had come to becoming a permanent fixture on Mt. Erebus.

I believe that we were overconfident. We had been tasked on so many occasions to take our aircraft into places that were hazardous; when we were tasked with a simple, routine flight, we got cocky.

Lt. MacGregor flies with VR-62.

How Do You Say Goodbye?

by Ken Skaggs

Three years ago, I stood up at my farewell from my fleet squadron and said, "See ya." That was my going-away speech, and I thought it was witty at the time. After all, how many times can you listen to, "I've really enjoyed my time here, met a lot of great people and saw a lot of neat places"?

Later, I realized it was a lame speech, and it would be even less appropriate here. I have learned the importance of the Naval Safety Center and *Approach*'s mission. That's a big improvement, because before I came here I had no idea what the Center did, just that *Approach* was here and I wanted the editor's job.

During my tour, I found out our mission was to conserve resources and save lives. We try to learn what causes mishaps, figure out ways to prevent them, and publish those ideas. For every airplane we keep in the air, we get to spend $40 million on something else, like fuel for flight time, better BOQs or more per diem for the VP guys.

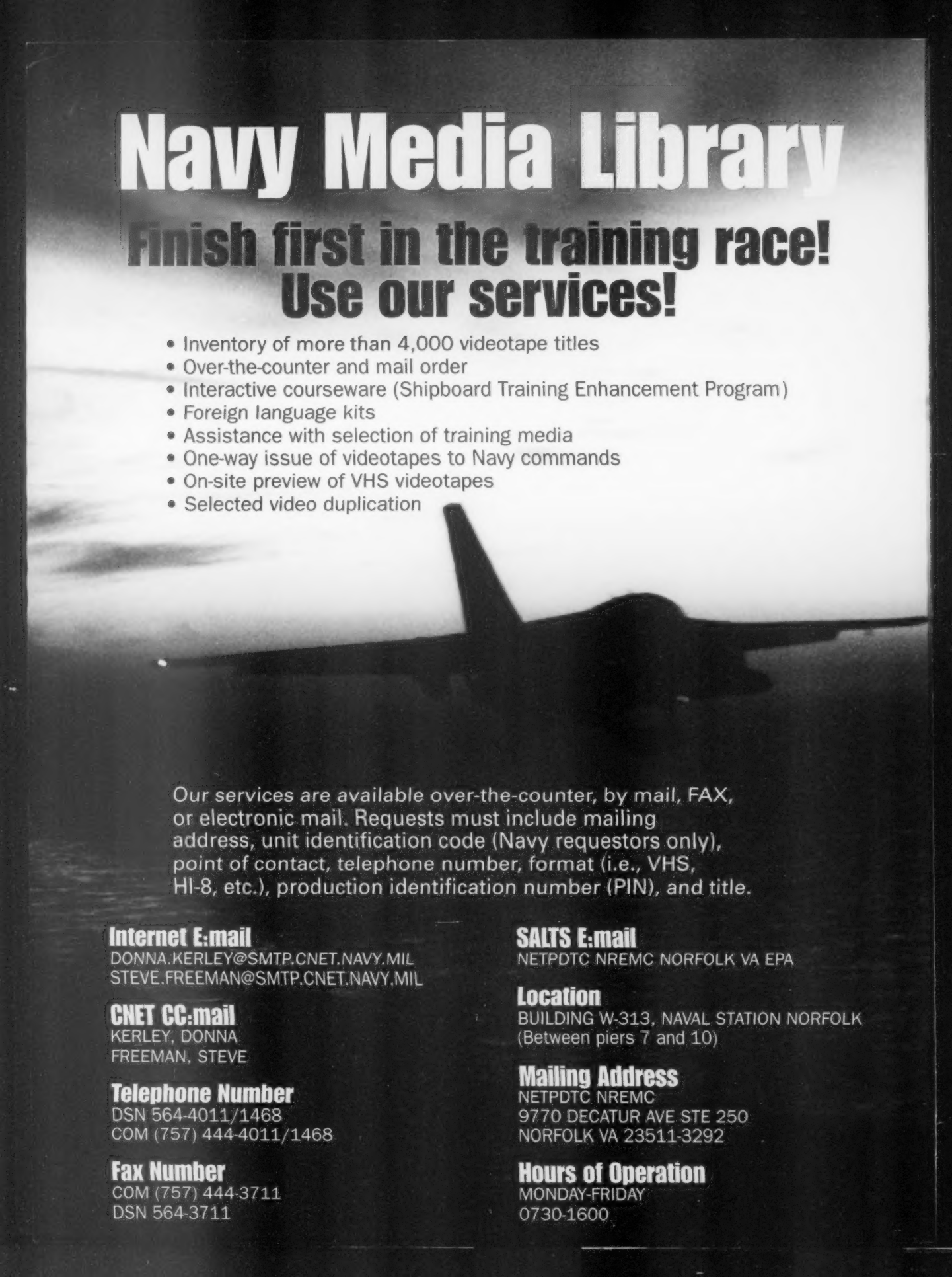
This command and this magazine continue to help the Navy and Marine Corps succeed. We've gone from losing more than two planes a day in 1955 to an average of three a month this year. In the time I've been in, the mishap rate for aviation has dropped almost 50 percent. Overall, drops in the total operational mishap rate saved the Navy and Marine Corps 296 lives and $624 million between FY94 and FY96 alone.

We're not done, yet. The Army's version of Operational Risk Management (ORM) has dropped their aviation mishap rate below 1.0, and that's where we want to be. I like this ORM idea, because it's not another program, and it's based in reality. It doesn't say, "Let's do away with all hazards and risks." It asks, "What are the hazards here, and how can we control them?" You can argue that it's just common sense, but as Voltaire said, "Common sense is not so common."

I've also learned that as great as these new ideas are, saving Sailors and Marines is best done in the fleet, at the platoon and division level. No program is one percent as effective as an NCO, CPO, or officer who cares about his troops. A good leader will make sure his men have the time, tools, and training they need to do their job without getting hurt.

He will also realize his job doesn't end when his guys leave the front gate. Most of the Sailors and Marines who die each year don't die because of a flight-deck accident; they die when they're off duty. These young men and women will work their hearts out, giving 100 percent to their job, then go out drinking and driving or driving without a seatbelt. We, as leaders, have to change those attitudes.

Saving lives and resources takes a mixture of new technology and old-fashioned leadership. Nothing profound, but a good lesson to take with me as I return to the fleet.



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